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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/664,695

09/22/2003

Ramani Mani

125643-1

5199

6147 7590 03/11/2009
GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER

RODRIGUEZ, WILLIAM H

ART UNIT

PAPER NUMBER

3741

NOTIFICATION DATE

DELIVERY MODE

03/11/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/664,695	Applicant(s) MANI ET AL.	
	Examiner William H. Rodriguez	Art Unit 3741	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19,21-26,28,29 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 and 32 is/are allowed.
- 6) ☒ Claim(s) 19,21,22,24-26,28,29,31 and 33-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the amendment filed on 12/17/2008. The indicated allowability of claims 19, 21, 22, 25, 28, 31, 34 is withdrawn in view of the rejections below. Since the examiner has applied new grounds of rejection, this office action is being made non-final to afford the applicant the opportunity to respond to the new grounds of rejection.

Response to Arguments

1. Applicant's arguments with respect to claims 19, 21, 22, 24-26, 28, 29, 31 and 33-35 have been considered but are moot in view of the new ground(s) of rejection.

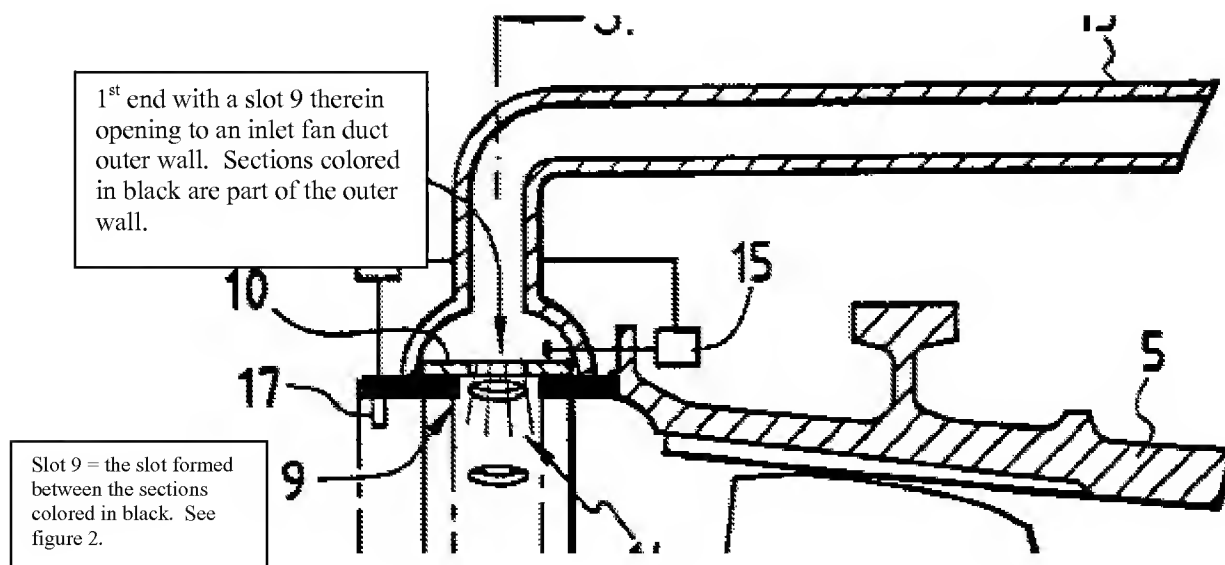
Claim Rejections - 35 USC § 102

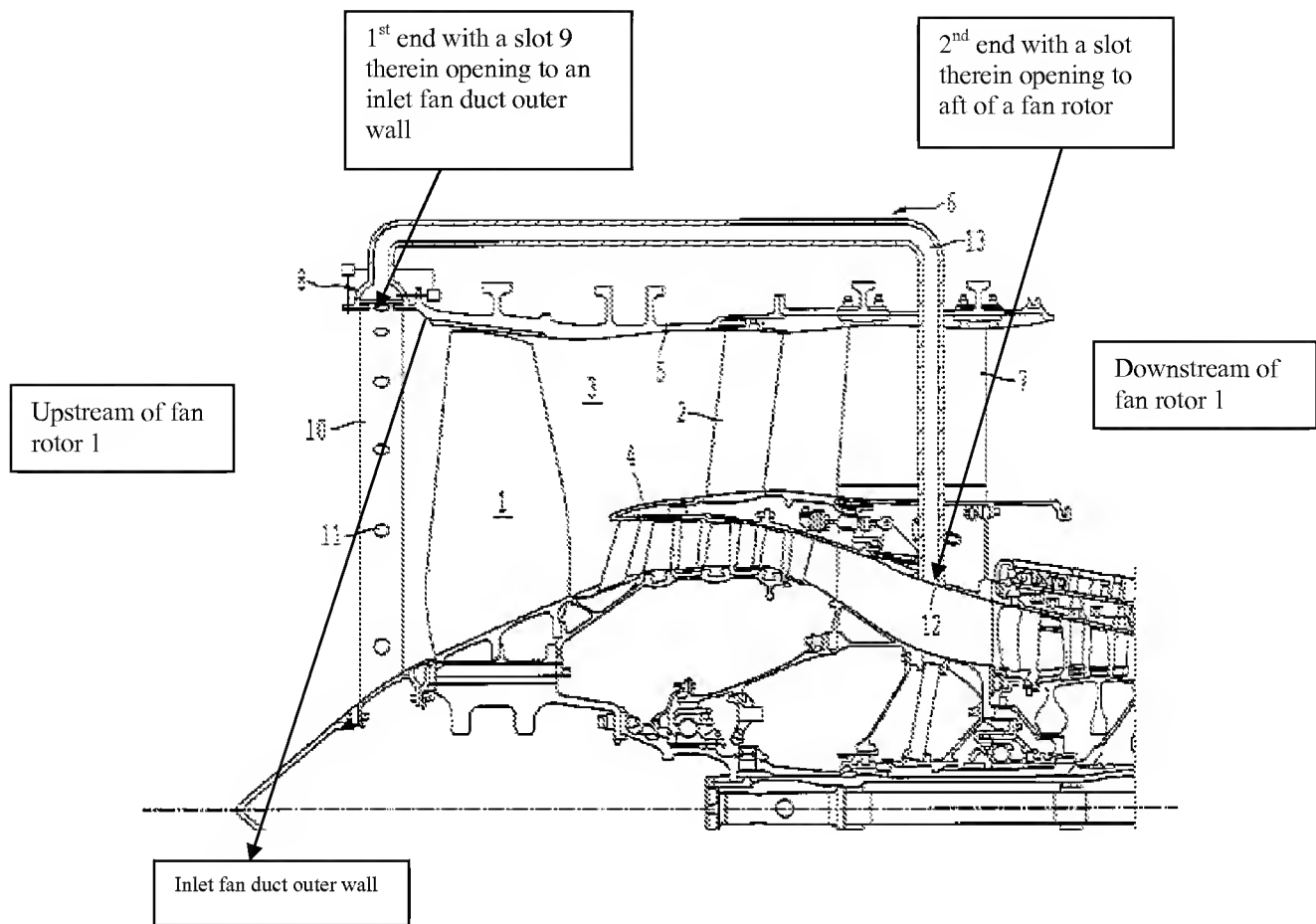
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 21, 22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Antoine (US 6,546,734).





4. Antoine teaches (particularly figures 1, 2) an apparatus for attenuating turbine engine noise comprising: a fluid duct 13 for increasing air velocity adjacent to an inlet fan duct outer wall, wherein said fluid duct has a first end with a slot 9 therein opening to said inlet fan duct outer wall, a body, and a second end with a slot therein opening to aft of a fan rotor 1, the slot in the first end being disposed upstream of the fan rotor 1 and wherein said first end slot 9 is a circumferential contiguous slot, wherein at least said first end slot is structured in an annular form (as indicated by the presence of the centerline on the bottom of figure 1).

5. Figure 2 teaches that the ring 10 is placed before the slot 9. Therefore, the slot 9 is the one opening to the inlet fan duct outer wall. Further, notice that the cross sectional area of the

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duct 13 is bigger than the cross sectional area of the ports 11 or slot 9 through which high pressure compressor bleed air is discharged. Thus, the air velocity of the bleed air flowing through duct 13 would be increased as it is discharged through ports 11 and then slot 9 which have a smaller cross sectional area. Therefore, the air velocity adjacent to an inlet fan duct outer wall (at the point where the slot 9 opens to the inlet fan duct outer wall) is increased because the velocity of the air discharged through ports 11 and slot 9 is increased.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antoine (US 6,546,734).

8. Antoine teaches (particularly figures 1, 2) an apparatus for attenuating turbine engine noise comprising: a fluid duct 13 for increasing air velocity adjacent to an inlet fan duct outer wall, wherein said fluid duct has a first end with a slot 9 therein opening to said inlet fan duct outer wall, a body, and a second end with a slot therein opening to aft of a fan rotor 1, the slot in the first end being disposed upstream of the fan rotor 1 and wherein said first end slot 9 is a circumferential contiguous slot, wherein said fluid duct is substantially disposed within the nacelle and is structured to provide a plenum, wherein at least said first end slot is structured in an annular form (as indicated by the presence of the centerline on the bottom of figure 1).

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9. Figure 2 teaches that the ring 10 is placed before the slot 9. Therefore, the slot 9 is the one opening to the inlet fan duct outer wall. Further, notice that the cross sectional area of the duct 13 is bigger than the cross sectional area of the ports 11 or slot 9 through which high pressure compressor bleed air is discharged. Thus, the air velocity of the bleed air flowing through duct 13 would be increased as it is discharged through ports 11 and then slot 9 which have a smaller cross sectional area. Therefore, the air velocity adjacent to an inlet fan duct outer wall (at the point where the slot 9 opens to the inlet fan duct outer wall) is increased because the velocity of the air discharged through ports 11 and slot 9 is increased.

10. Regarding the claimed recitation “said fluid duct is of sufficient dimension.....”, to the extent that the claimed invention produces the claimed desired results, the applied prior art structure being the same, does the same. In addition, it has been held that “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955), MPEP 2144.05 II. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the optimum size of the duct needed to carry a sufficient amount of bleed air to reduce engine noise as required by the design specification/requirements.

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11. Claims 28, 29, 31 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antoine (US 6,546,734) in view of Howell (US 3,735,593).

12. Antoine teaches (particularly figures 1, 2) an apparatus for attenuating turbine engine noise comprising: a nacelle surrounding a fan rotor 1 and a fan discharge outlet guide vane 2, a turbine shaft (shown but not labeled) connected to said fan rotor, a fluid duct 13 for increasing air velocity adjacent to an inlet fan duct outer wall, wherein said fluid duct has a first end with a slot 9 therein opening to said inlet fan duct outer wall, a body, and a second end with a slot therein opening to aft of the fan rotor 1, the slot in the first end being disposed upstream of the fan rotor 1 and wherein said first end slot 9 is a circumferential contiguous slot, wherein said fluid duct is substantially disposed within the nacelle and is structured to provide a plenum, wherein at least said first end slot is structured in an annular form (as indicated by the presence of the centerline on the bottom of figure 1).

13. Figure 2 teaches that the ring 10 is placed before the slot 9. Therefore, the slot 9 is the one opening to the inlet fan duct outer wall. Further, notice that the cross sectional area of the duct 13 is bigger than the cross sectional area of the ports 11 or slot 9 through which high pressure compressor bleed air is discharged. Thus, the air velocity of the bleed air flowing through duct 13 would be increased as it is discharged through ports 11 and then slot 9 which have a smaller cross sectional area. Therefore, the air velocity adjacent to an inlet fan duct outer wall (at the point where the slot 9 opens to the inlet fan duct outer wall) is increased because the velocity of the air discharged through ports 11 and slot 9 is increased.

14. Antoine is silent about attaching an acoustic liner to said nacelle. Howell, teaches an apparatus for attenuating turbine engine noise similar to the one disclosed by Antoine wherein a

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fluid duct having a first slot and a second slot are used to reduce engine noise and wherein an acoustic liner is attached to the outer wall of the nacelle in order to further assist in reducing noise generated by the engine. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have provided Antoine's inlet fan duct outer wall with an acoustic liner in order to further assist in reducing engine noise.

15. Regarding the claimed recitation "said fluid duct is of sufficient dimension.....", to the extent that the claimed invention produces the claimed desired results, the applied prior art structure being the same, does the same. In addition, it has been held that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955), MPEP 2144.05 II. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the optimum size of the duct needed to carry a sufficient amount of bleed air to reduce engine noise as required by the design specification/requirements.

Allowable Subject Matter

16. Claims 23 and 32 are allowed in view of applicant's amendment to these claims. See amendment filed on 12/17/2008.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodríguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cuff can be reached on 571-272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William H. Rodríguez/
Primary Examiner, Art Unit 3741